

University News

MONDAY, NOVEMBER 30, 1987

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OFFICE MANAGEMENT

- Motivation and Leadership Role
- Management of Change
- Checks and Inspections
- Group Discussion

CLASSIFIED ADVERTISEMENTS

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Advertisement No. III/1987

Dated: 19.11.1987

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M.B. Mughal
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P. Raja Ram
ADMINISTRATIVE OFFICER (Gr. I)

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Editor:
SUTINDER SINGH

Motivation and Leadership Role in Office Management

Sukhdev Singh*

Office and administrative management as a professional field has emerged in recent years. By definition it is that function within the organization which has responsibility for the overall operations of the organization. Contributing to the enhanced prominence and importance of administrative managers has been the revolution in information technology. It has created a need for professionally competent office managers—managers capable of analysing informational needs of an organization, designing systems to meet these needs, providing the ancillary services associated with information, and coordinating the diverse activities of various specialists within the organization, directing them towards accomplishment of overall organizational objectives.



Dr. Sukhdev Singh

The development of work systems emphasised in administrative management cannot, however, ignore the social systems, or human relationships, upon which all other systems depend heavily for their success. Need for developing and motivating employees as well as the process of team building through effectively played leadership role can hardly be over-emphasised.

Motivation

Traditionally, management of governmental, military, religious and early business organizations assumed that the "prime mover" in motivating people to perform could only be authority. Leaders, it was assumed, should make all significant decisions as to what should be done and how. They should have authority to command action of others and to administer rewards and penalties in relation to performance. The source of authority was considered to be the church, the State, the rights of private ownership where existent, or some such other right.

Management views towards the influence which determine an employee's will to work are now undergoing changes that are substantial and long overdue. Slowly a very different philosophy of motivation has evolved. This pattern of thought recognizes serious limitations in top-down, authoritarian leadership. Employees' resentment against authoritarian control has been observed to build up as standards of living have risen and as individuals have become more and more aware of their rights. Of perhaps equal significance, rising levels of education have caused many persons to raise their levels of aspiration, to wish to make more of their lives than they formally thought possible.

*Vice-Chancellor, *Punjab Agricultural University, Ludhiana.*

In addition to subtle influence which may have penetrated management thought as living standards and educational levels have risen, there have been significant research contributions in the social sciences, which have had parallel effects. Elton Mayo headed a team of researchers conducting the famed Hawthorne Experiments (so named because carried on the Hawthorne plant of Western Electric) during the late 1920's which first stirred management thought with this finding: The most influential factor in determining employee performance is the general set of attitudes which employees have towards their work, associates, and management. Further research by psychologists, sociologists, anthropologists, and other social scientists has thrown additional light upon the forces which stimulate people to perform effectively while at work. Much research of this type is now in progress.

Priority of Human Needs

One of the most widely accepted conceptual framework for current theories regarding motivation centers around recognition of the existence of a priority in human needs¹. According to this general theory, human needs tend to follow the pattern presented hereunder in the sequence in which individual usually become concerned with them:

1. **Physiological needs**—for survival, food, clothing, shelter, air to breathe, rest to overcome fatigue, and the like.
2. **Safety and security**—for protection against danger and deprivation.
3. **Social needs**—for association with other persons, acceptance, belonging.
4. **Egoistic needs**—for self esteem and for a good reputation in the eyes of others.
5. **Self-fulfilment**—for realizing one's potentialities, finding expression for one's creative abilities.

In a society which enjoys a generally high standard of living and a high and rising educational level, the first two levels are already reasonably well met for most, although not all, people. Consequently, in such situations, pay, fringe benefits, and job security are no longer powerful motivations, except to the extent that they influence status in the eyes of oneself and others. However, for persons living in countries where living

standard and educational levels remain low or where physiological needs are not reasonably met, the lower order needs still serve as motivators in many cases.

With regard to the higher levels of human needs—especially the egoistic and self-fulfilment needs, a very different situation exists for the typical employee. Most employees are now predominantly concerned with filling social needs, both on and off the job, and with egoistic needs. They seek acceptance, a sense of belonging, status and recognition in a wide variety of forms. The highest of the needs listed, self-fulfilment (or self-realization, self-actualization) is attained by comparatively few. In order to achieve it in any large measure, an individual usually must be successful in an activity which is meaningful, useful, and creative to the extent of his abilities. He will need opportunity to use his mental as well his physical talents, in most cases.

However, for the majority of employees, the egoistic and self-fulfilment needs are largely unfilled. One reason is the close relationship to the work each person does, and the usual shortage of opportunities for him to think and use his creative abilities in his work. Certain management challenges are, therefore, indicated.

For administrative (office) management, there is another group of human needs that is more appropriate for the supervisory aspects of managing people at work. While this brief list is rather similar to that of Maslow, it provides the practical approach that all supervisory personnel should have in order to integrate these practices into their everyday interactions with the office staff. None of these needs manifest themselves individually, and except for the first, a priority is difficult to justify. They are all important and all are involved to some extent in the supervisory-worker interactions each day.

Security

The need for security is broken down into economic security and safety security. Economic security implies the basic need for food, clothing, and shelter or else the economic means to obtain these items. Safety security implies the need for protection, both physically and emotionally.

Belonging

This is perhaps the strongest need of the group. The need to belong to something, to someone, to some

1. A.H. Maslow "A Theory of Human Motivation" *Psychological Review*, 50, No. 4, July 1943, 370-396.

group is evident in all of our daily contacts with people and with organizations. Employees should be made to feel a part of the group, the team, and encouraged to identify as much as possible with the organization, and with the goals of the organization.

Recognition

Recognition for performance is received from the supervisor, the work group, the organization, and intrinsically, from the individual himself. Recognition can either be informal or formal, but the important criterion is that recognition should always be sincere and awarded only when clearly justified. Although, there is one element of truth in the theory that even negative recognition is better (relatively speaking) than no recognition at all. The amount, the timeliness, and the manner in which recognition is expressed by the supervisor obviously depends upon the situation and the personalities of the individuals concerned.

New Experiences

One may question the inclusion of a need such as new experiences. While the justification is not particularly over-whelming, there is considerable merit to the theory that stagnation is the ruin of many capable employees. We all speak of the "rut" of the job of life, and of our lack of progress from time to time. The need for new experience is a need for a refreshed attitude on the part of an employee to his work. It can be a way to encourage his job enthusiasm and a means for a dynamic understanding of his role in organization. Depending on the individuals and the job, a supervisor can provide new experiences to stimulate an employee's imagination and creativity and help him recognize his own potential. In other words, new experiences can improve the relationship of an individual to his job, thereby improving his attitude as well as the quality of his work.

Challenge to Management—Role of Leadership

In the most direct and simple terms, the challenge may be expressed as that of striving to make each employee a responsible, participating member of the organization. Achieving this goal requires creating conditions in which he can use his abilities, mental as well as physical, and in which he can see a close relationship between organizational success and his own personal success.

If an environment of this sort can be established, it is realistic to expect a much higher degree of dedica-

tion or commitment by an employee to his work and his organization. Self-development, high standards of performance, and a measure of self-expression in one's work, becomes goals sought voluntarily rather than demands imposed by an authoritarian source.

While giving increased attention to previously unrecognized needs of employees, management must obviously continue to think about the needs of the organization—about success in meeting its objectives, stability, and growth. Otherwise, there will be little opportunity to serve personal needs such as those just considered; and enterprise must successfully fulfil its primary mission if it is ever to provide employment opportunities.

What is needed, then, is an integration of interests, and leadership capable of meeting the needs of the organization, its employees, its owners, other special groups, and the general public.

Certain basic leadership practices which serve general interests may include Goal setting, Designing job, Working with supervisors, Working with associates, Working with subordinates, Communication, Participation, Performance appraisal, and General leadership requirements.

Since leadership is aptly defined as getting voluntary and willing cooperation of the subordinates, a participative or democratic leadership style has been found to be more effective in most circumstances. The value of employees' ideas in setting goals, formulating plans, improving methods, and controlling one's own performance need not be overemphasized for administrative management. Through participative management many sound ideas come to light which would otherwise be ignored. Morale improves, particularly where a reasonable portion of suggestions are acted upon. Individuals who think creatively develop themselves for higher responsibility.

In practice, participation ranges in degree from complete delegation of responsibility to consultation on major aspects of a problem or proposal, or on minor details of how to apply a plan already decided upon, or on employee reaction to a predetermined plan. In some cases, some decisions permit a much higher degree of participation than others.

The direct relationship to human needs is again apparent. Participation in numerous forms offers many opportunities for ego satisfaction and self-fulfilment.

General Requirements in Leadership

Implicit in the discussion of leadership practices are fundamental requirements which may be regarded as 'common denominators'. While specific techniques must be adapted to the leader, the people led, and the situation, we can single out certain attitudes and skills which will increase effectiveness in most situations.

Empathy in communications and in other contacts with people will nearly always lead to better results. A feeling for people and an understanding of a particular person's emotional reactions will enable any leader to adapt his approach to achieve a more favourable response; it is important, however, that the leader attempts to remain objective so that sentiment does not blind him to other requirements.

A genuine respect for people, coupled with deliberate effort to bring out the best in each person rather than to focus upon his weaknesses, will show itself in countless relationships, and will encourage people to grow and to live up to the confidence placed in them. Again train-then-trust is recommended as a philosophy to guide much leadership behaviour.

Integrity--basic honesty and fairness, acting from conviction as to what is right rather than who is right, and setting high standards for one self as well as for others—is perhaps the most essential of all leadership qualities. At the same time, integrity must be combined with patience and understanding; people often require time to learn and adjust and they may have differing values and personal needs. A manager must be a realist; he will need a combination of integrity, tolerance, patience, and a good sense of timing.

Determination to get results very often proves to be the real measure of difference between highly successful leaders and those less successful. Excuses are on every hand if one is looking for them. But with a philosophy of "results-not excuses", a leader so nearly always find ways to achieve results; such a philosophy in no way requires that a person be ruthless, unscrupulous, or inconsiderate of others. It suggests, instead, that if his first approach to a problem fails, he will try another approach, and he will use ingenuity and persistence until he finds an approach that leads to the desired ends.

□

SHASTRI INDO-CANADIAN INSTITUTE

92, GOLF LINKS, NEW DELHI-110003 (India)

ANNOUNCEMENT

FELLOWSHIP FOR WOMEN IN DEVELOPMENT

The Shastri Indo-Canadian Institute is currently seeking applications from senior Indian Scholars for two fellowships for a lecture and research programme to help develop expertise in the area of women in development at selected Canadian Universities. These senior visiting fellowships are to be effective from September 1, 1988 for one Academic TERM (13 Weeks). The candidates : 1) Should be established scholars in India with demonstrated ability for research and lectures on Women in Development, 2) Will be expected to assist individuals or groups in the development of research expertise on Women in Development in appropriate Canadian Universities, 3) Should be willing to take up the fellowship, if offered, and undertake to leave for Canada by September 15, 1988.

The institute will bear the cost of travel (excursion return airfare) of the selected candidates. In addition, the institute will pay a maintenance allowance of Canadian dollars 2,500.00 per month for a maximum period of four months, and a lumpsum of Canadian dollars 500.00 for the purchase of books and personal effects.

Applications, which must include a detailed bio-data, research proposal, and list of lecture topics (seven copies each) must reach the Shastri Indo-Canadian Institute, 92 Golf Links, New Delhi-110 003 not later than January 15, 1988.

MANAGEMENT OF CHANGE

A Case Study of Madurai Kamaraj University

R. Kanagasabapathy*

Introduction

While Education helps the society to undergo social change, it should itself go on changing continuously so as to cater to the development needs of the society. Though many new ideas have evolved on what the structure or content of higher education should be and many changes have been tried, yet the situation remains unsatisfactory. The changes that have been made are not significant. The reasons may be many, and one of the important reasons is that sufficient attention has not been paid to the process of bringing in the required innovations and institutionalising them. This study attempts to find out how the application of the Principles of Management in the realm of Higher Education will bring about changes in the process of introducing innovations.

The Problem

The problem chosen is : A Study of Management of Change in Madurai Kamaraj University. The objective is to study the introduction and institutionalisation of some significant innovations in the affiliated colleges of Madurai Kamaraj University. The specific objectives are :

(1) To identify the various innovations that were introduced by the Madurai Kamaraj University in the affiliated colleges during the last fifteen years and categorise them as (i) affecting all the students/only part of them; (ii) optional for adoption/obligatory; and (iii) institutionalised/discontinued;

(2) To trace the travel paths of some selected innovations from the point of origin to the point of implementation ; and

(3) To locate certain crucial points in the process of implementation of innovations by Madurai Kamaraj University in its affiliated colleges with particular reference to planning, organisation, staffing, leadership and control.

[Based on author's Ph.D. dissertation accepted by M.S. University of Baroda in June 1986]

*Principal, Aditanar College of Arts & Science, Virapandianpatham, Tiruchendur.

Methodology

Ten innovations that were introduced by Madurai Kamaraj University in its affiliated colleges during the period 1965 to 1980 were identified and of them, three innovations, viz., Grading System, Semester System and Co-curricular activities were chosen for the study.

The population of the study : In Madurai Kamaraj University there were 81 affiliated colleges at the time of investigation, offering instruction in Arts, Science and Commerce subjects. Among them, the following formed the population of the study : (i) The Vice-Chancellors and officers of the University who hold office during the period of implementation of the innovations, (ii) The Secretaries of college committees, the Principals and the Office Managers who were serving in those 81 colleges during the period of investigation; (iii) The teachers who were working in the 81 colleges during the period of introduction of the respective innovations; and (iv) The students who were studying in the 81 colleges during the period of introduction of the respective innovations.

Of the 81 colleges, twelve colleges were selected purposively. In these colleges, all the Secretaries of colleges committees, Principals and Office Managers were treated as sources of information for the study. Further three Vice-Chancellors, four Officers of the University, the Director of Youth Welfare, the Director of Physical Education and the Director of Adult Education and two members of the Syndicate/Academic Council/Senate were treated as sources of information. Twenty teachers were selected randomly from each of these colleges who had served at the time of introduction of the innovations, Grading System and Semester System. For the innovation co-curricular activities, Assistant Professors of Physical Education, NCC and NSS Officers of all the 81 colleges were considered for the study since there were only one or two officers in each category. As regards the student respondents, 20 students from each college, who studied during the introduction of these innovations were selected randomly, keeping in view the different disciplines offered therein.

Two tools were developed to seek information for the study : (i) Questionnaire, and (ii) Interview

Schedule—(i) Questionnaires for (a) Teachers; (b) Students; and (c) Office Managers. (ii) Interview Schedules for (a) Vice-Chancellor of the University, (b) Convener of the Syndicate Sub-Committee, (c) Officers of the University, (d) Secretaries of college committees and (e) Principals of colleges.

Data were collected by (i) administering questionnaire, (ii) interviewing and (iii) library study. The collected data were analysed, and interpreted as follows : For specific objectives (i) and (ii), only theoretical and qualitative measures were employed. For objective (iii), the responses from the Principals, teachers, students and office managers of colleges, were analysed using percentage analysis and frequency counts.

Major Findings

Need for Innovation

The Convener, Principals, Teachers and students did not feel the need for introducing the Innovation Grading System; the Convener, Principals and students felt the need for the innovation Semester System but not the teachers; the Convener, the Principals and teachers felt the need for the innovation Co-curricular activities but not the students.

Grading System and Co-curricular activities have been withdrawn. The students did not feel the need for both.

Students found the innovation Co-curricular activities beneficial to them, though they did not feel the need for it.

Planning

In the case of all the three innovations, while collecting information, the University authorities failed to look into the past history of the innovations. Grading System had on an earlier occasion, been introduced and withdrawn at the Pre-University and Degree levels; Internal Assessment—a critical component of the Semester System—had been introduced in some Degree courses and withdrawn and it was in practice in the PG courses; part of the innovation Co-curricular activities was in practice and only on that infrastructure, this innovation was built. In all these cases neither the reasons for their withdrawal nor the present conditions of working were studied. This was a default on the part of the University authorities. Grading System was again withdrawn; Internal Assess-

ment continued to be a critical point and the innovation Co-curricular activities was also withdrawn.

In the Academic Council, the decision-making body, conditions for free and frank discussion were created in the case of Semester System and not in the case of the other two innovations.

Though the Principals unanimously passed the resolutions in the Academic Council for introducing all the three innovations, in the case of Semester System they gradually began to show resistance at various meetings of the Academic Council and the Senate, in the case of Co-curricular activities they showed so much resistance at the Academic Council that it ultimately led to the withdrawal of the innovation.

Re-educative, persuasive, facilitative and power strategies were used in the implementation of the three innovations. Re-educative, persuasive and facilitative strategies helped in the implementation process, while power strategy led to the ultimate discontinuance of the innovation, Grading System.

Adequate planning was done in case of Semester System and the innovation continues. There was only 'under-planning' in the case of the other two innovations and they had been withdrawn.

Organisation

In case of all the three innovations, implementation both at the University level and at the college level, was generally done in a poor way. The following three aspects which were fulfilled in the case of the Semester System—(the innovation institutionalised) are the significant factors in implementing an innovation :

- (i) Making the required organisational changes;
- (ii) Principals delegating their work to a committee; and
- (iii) Introducing the innovation as a pilot project, evaluating it and then extending it to other colleges.

Staffing

In all the three innovations, no officer—navigator—was appointed in the University, exclusively to be in charge of implementing the innovation.

Additional teaching staff were provided to meet the requirements to some extent and orientation provided to them was also adequate to some extent only.

Adequate administrative staff were not provided both in the University and in the colleges; orientation was not even thought of, for them.

Leadership

The Principals were much motivated towards the Grading System, but it had been withdrawn. Teachers were much motivated towards Co-curricular activities; but it had also been withdrawn. Both Principals and teachers were motivated to some extent towards the Semester System and it continues.

"It was a challenging task" was the chief motivator for the Principals and teachers.

A comprehensive draft, giving all the salient features of the innovation, was prepared and sent to all the colleges in the case of Semester System only and not in the case of other two innovations.

In case of all three innovations, whenever the Principals had difficulty in implementation, they did not write to the University. Further they did not make adequate use of the forums, Academic Council and Senate, to air their views.

In the case of all the three innovations, the teachers explained the innovation to the students and the case of difficulty, students represented mostly to the teachers. This brings out the necessity of giving adequate orientation to teachers, otherwise the innovation is likely to be distorted.

With regard to the Grading System, the University authorities could not face the resistance from the students successfully and in the case of Co-curricular activities, they could not face successfully the resistance from the Principals. The innovations had been withdrawn. In case of Semester System, they were able to face the resistance from Principals, Teachers and students at various stages and the innovation continues.

"Facing resistance" is one of the major tactics to be successfully used.

Lack of leadership on the part of the University authorities is revealed in the case of Grading System and Co-curricular activities which ultimately led to the withdrawal of the innovations. Lack of leadership is seen on the part of the Principals in the case of Grading System and Co-curricular activities; and on the part of the teachers in the case of Grading System.

This brings out the need for training in leadership (including change) to be imparted to University authorities, Principals and teachers.

Control

In the case of all the three innovations, controlling techniques were fairly well used but proper remedial action was not taken in time.

Discontinuance

Both Grading System and Co-curricular activities have been withdrawn. But the innovation, Co-curricular activities has produced functional consequences.



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There may be functional consequences even from innovations discontinued.

The innovation Co-curricular activities was withdrawn in haste—without a fair trial given to it.

Some Suggestions

1. NEED FOR THE INNOVATION

Before introducing an innovation, the University authorities should find out whether the students feel the need for the innovation. If the need is clearly expressed, steps may be taken to introduce the innovation. If the need is not expressed, but the authorities are convinced that the innovation will definitely help the student community, then they should educate the students and make them feel the need for the innovation.

2. PLANNING

2.1 Collecting Information and Forecasting

The University authorities should

(1) gather all the information available about the innovation in the form of brochures, books and training manuals;

(2) conduct seminars, workshops pertaining to the innovation where experienced personnel in the field would participate as resource persons and all the points for and against the innovation should be debated;

(3) go through the past history of University and if at any time, the innovation or some related innovation had been in practice and withdrawn, the reasons for the withdrawal should be carefully analysed;

(4) make an in-depth study of the proposed innovation or part of it which is in operation in some area or other at the time of introduction of the innovation; and

(5) do proper exercises for forecasting. There are theories of interactive forces of change. In its simplest form, it means that the planners should identify the forces that are likely to be supportive of the change and those that are likely to resist it. A measure should be assigned to each of the forces—positive for the supportive forces and negative for the resistive forces; if the algebraic sum is positive, the authorities may go ahead with the innovation or steps

should be taken to strengthen the positive forces and weaken the negative forces.

2.2 Decision-Making

The details of the innovation should be sent to all the Principals well in advance and they should be requested to have wide discussion with the users concerned (teachers, non-teaching staff and students) arrange seminars, workshops, etc. and to send the comments, suggestions for improvement to the University. Then a meeting of the opinion leaders—in the University set up, the Principals and teachers who are members of the Academic Council, Senate and Boards of Studies should be held, where an informal and frank discussion should be had. Based on these, the details of the innovation should be prepared in the resolution form and sent to the members of the Academic Council and the Senate well in advance. Again in the Academic Council and Senate there should be fair and frank discussion. The authorities should encourage more members to react and create a condition where the elders are free to express their opinion without fear. The authorities should find value in resistance. Then a decision should be taken.

If a decision is taken to introduce the innovation, well and good; even otherwise no regrets need be felt by the University authorities. For, the academic bodies have a function as gate-keepers also, since all innovations may not be useful.

Just because the resolution has been passed involving all concerned, the authorities need not be complacent that there will be no resistance in future. If at the implementation stage, obstacles arise which the members not able to overcome, then again resistance may arise.

2.3 Laying Down Objectives

In the University set-up, the authorities and officials in the University Grants Commission, the authorities and officials of the University, the Principals and teachers should be familiar with 'Management by objective' or 'Managing for Results'.

If the innovation is introduced at the initiative of the UGC, then the UGC should lay down the overall objectives. The University authorities should formulate specific objectives for the colleges and place them before the Academic Council and the Senate for discussion and approval. The Principals should, in turn,

formulate objectives for their Heads of Departments and Teachers.

Setting objectives is a difficult task and it needs practice. Hence all concerned should be trained in 'Management by objectives'.

2.4 Strategy and Tactics

(1) While introducing innovations, re-educative, persuasive and facilitative strategies are to be adequately used. Power strategy is to be avoided.

(2) 'Facing resistance' is an important tactics which is to be carefully and successfully used.

(3) In implementing an innovation; the following tactics should also be used:

- (a) Convincing the users that the consequences of the innovation will be positive.
- (b) Finding Value in resistance at the initial stage.
- (c) Ensuring that the job security of no one is threatened.

2.5 Information System

There should be an effective Management Information System (MIS) which should provide the University authorities in time, the adequate information they need. The following infrastructures that exist in the University system may be knitted together and a good MIS may be evolved:

(i) Comments made, resolutions moved and questions raised by members in the Academic Council and Senate;

(ii) Recommendations and findings in the seminars and workshops held in the University where experts are invited as resource personnel and principals and teachers and students participate;

(iii) Members of the Syndicate and the Officers of the University visiting the colleges periodically and collecting first hand information; and

(iv) Survey reports—scientifically carried out by the Department of Education or other competent bodies.

2.6 Supporting Plans

Policies, procedures, rules and regulations regarding the innovation, as applicable, should be prepared in detail well in advance so that everyone gets a clear understanding of them.

The budget, in terms of additional money, equipment and manpower, should be prepared. Efforts

should be made to generate or procure the additional resources required. In the University system, the University may not have the resources required to provide additional finance, equipment and manpower to the affiliated colleges. In that case proper authorities should be approached well in advance and it should be ensured that the additional resources could be provided right in time. Only then the innovation should be implemented.

2.7 Making Plans Effective

For the successful implementation of an innovation, adequate effective planning should be done taking into account all the management activities. Both under-planning and over-planning should be avoided. Over-planning occurs while writing elaborate reports beyond need, etc.; Under planning occurs when significant factors are not taken into account.

3. ORGANISATION

A small committee with not more than five members should be appointed to monitor the innovation throughout. The chairman or convener of the committee should be an able person dedicated to the task.

At the implementation stage—both at the University level and the college level—great care should be taken, since this is the crucial stage. The following points are to be noted:

(1) Opinion leaders should be identified and their support sought.

(2) Required organizational changes should be made in all the relevant sections of the University.

(3) Implementing innovations in succession may be avoided, as far as possible.

(4) Sufficient time should be given for the administrative staff of the University and the teachers in colleges to implement the innovation.

(5) Personnel, whose work-load is likely to increase due to the implementation of the innovation, should be identified and adequate compensation made.

(6) It should be determined whether the colleges are in a fit condition to receive the innovation, by mapping their Organisational Climate (OC), Teacher Morale (TM) and Change Proneness of teachers (CP) by the standard attitude scales available. Efforts may

be made to improve the standard of colleges, wherever necessary, by applying suitable Organisational Development (OD) procedures. Willingness on the part of the colleges to introduce the innovation alone should not be taken as an indication of readiness to implement the innovation.

(7) Wherever possible, the innovation should be introduced in selected colleges, as a pilot project. The results of the pilot project should be scientifically studied by a survey with regard to its effectiveness. Only when established that the innovation is effective in bringing benefits to teachers and students, it should be extended to other colleges. Just because the innovation has been going on for a period, it does not mean that the consequences are positive. In other words, if there was no protest from teachers and /or students it should not be taken that the innovation has been implemented successfully.

(8) At the college level, the principals should delegate the task of implementation. They should appoint either one member of the staff or a small committee of members of the staff to be in charge of implementing the innovation.

(9) Whenever any conflict arises between individuals or groups, conflict resolution should be resorted to. Conflict management skills should in fact be a pre-requisite for those assuming higher education administrative roles.

4. STAFFING

An officer should be appointed in the University—the navigator—to be exclusively in charge of the implementation of the innovation.

Additional administrative staff needed for the University should be visualised and provided in time and in adequate number.

To provide additional teaching and non-teaching staff in the colleges, efforts should be made to approach the Government in time and the staff should be provided in time.

The University should make arrangements to give adequate orientation/training to the Principals, Heads of Departments and teachers in colleges. Conducting orientation for Principals and Heads of Departments and asking them to conduct orientation for teachers in their respective colleges may not be effective.

Eminent educationists should be invited as resource personnel to conduct the orientation programmes. Training manuals and other relevant literature should be obtained from various sources—University Grants Commission, Association of Indian Universities, etc.—and distributed to the Colleges in sufficient number. When conducting orientation programmes, care should be taken to bring in the required attitudinal changes in teachers. For example, in the Semester System where Internal Assessment is involved, there should be an attitudinal change on the part of the staff towards students.

Orientation/training programmes should be conducted for the administrative staff of the University and the non-teaching staff of the colleges. This is a significant factor.

Those who are engaged in these training programmes should be familiar with the inhibiting factors for change. They should use for their guidance, books brought out on "Training for change agents."

S. LEADERSHIP

5.1 Motivation

All concerned should be motivated to carry out the innovation. There are many theories of motivation. University authorities, officials and Principals should be made aware of those theories so that they may take proper steps to motivate the concerned personnel.

In the educational system though 'altruism' is one of the chief motivators for teachers, authorities should not rely on that only. They should apply the following motivators also according to the circumstances :

1. Monetary reward,
2. Positive reinforcement-appreciation of good work,
3. Participation,
4. Job enrichment, and
5. Improving organizational climate.

5.2 Communications

A) University to the Colleges :

- (a) A comprehensive draft giving all the details of the innovation should be prepared and sent to all concerned in time. It should be such that it gives a clear

working knowledge of the innovation to the Principals, Teachers and students and the administrative staff both in the University and in the Colleges.

(b) The Secretaries of the college committees should be informed of the innovation, giving additional details as to what facilities they are expected to provide to implement the innovation successfully.

(c) After sending one comprehensive draft, a number of communications should be sent periodically so that the message is often repeated and an impact is produced on all concerned

B) Inside the Colleges :

(i) Information to the teachers :

In addition to convening a staff meeting, explaining and discussing the details of the innovation, the principals should arrange to issue copies of the document detailing the innovation to all the teaching and non-teaching staff in the colleges. Only when one has got a copy in his hand, he will be able to go through the details.

The University authorities may arrange to print sufficient copies and distribute them to all concerned through the Principals

ii) Information to Students :

In addition to explaining the details of the innovation to the students through the teachers in the classes, arrangement should be made to have it printed in the college calendar—so that every student will be able to go through it at leisure and seek clarification

5.3 Providing Leadership

Leadership is like that of an orchestra leader whose function is to produce coordinated sound and correct tempo through the integrated effort of the musicians. Depending upon the quality of the director's leadership, the orchestra will respond (Koontz *et al*—1982) In the University set up there are many categories of leadership : the University authorities, the University officials, the Principals, the teachers and the students leaders. Everyone should play both his role as an individual and his role as a leader so effectively that the innovation would be successfully implemented. Every category should be familiar with the qualities of leadership. Suitable training programmes should be arranged periodically to develop the qualities of leadership in all those categories.

Balanced marketing of an innovation should be done. There should be neither aggressive marketing

relying heavily on promotion nor minimal marketing relying heavily on production.

6. CONTROL AND REMEDIAL ACTION

In the colleges, the Principals should periodically evaluate the implementation of the innovation by calling for reports from the teachers and by other means and send periodical reports to the University. They should also make use of the Academic Council and Senate to air the views of the teachers and students.

The University authorities should take adequate steps to know whether the objectives were being achieved. Periodically they should call for reports from the colleges, conduct sample surveys and arrange for personal visits to the colleges by members of the Syndicate and officials of the University. Based on the reports, they should take proper remedial action so that the objectives are achieved

The University authorities should look for critical points where things are most likely to go wrong and arrange for control.

The authorities should look not only for regular deviations but also for positive deviations. Some individuals or institutions may do better than what is laid down in the objectives, in some aspect or the other. They should be spotted out. They should be encouraged and their achievements should be communicated to others. Then they will feel motivated and this may lead to further improvement of the objectives themselves.

7. IMPACT

A) Consequences of the Innovations :

(1) When an innovation is implemented, the authorities should not assume that just because the innovation is continuing, the consequences are positive. They should periodically study the consequences always having in mind that the consequences are positive only if the innovation is effective.

(2) Even when an innovation is withdrawn, the consequences should be studied since it may also produce some functional consequences.

B) Discontinuance of innovation :

Any innovation introduced should not be withdrawn, without adequate trial. □

CHECKS AND INSPECTIONS

S.R. Joshi*

Meaning and Purpose of Inspection

The word 'Inspection' means "the act of looking closely into; careful or official examination". Various administrative commissions, committees, etc. appointed by the Government to suggest improvements in the methods of working have, time and again, emphasised the need of having a manual of office procedure for every organisation. The procedure and practices prescribed in the manual are supposed to be such as to help in the achievement of the objectives of the organisation as economically as possible. A manual of office procedure itself cannot achieve the objectives unless it is ensured that the provisions contained therein are understood properly and practised intelligently. Even this may not be very helpful if the old procedures are allowed to continue without any review so as to test their intrinsic soundness and utility from time to time, or to ensure that the procedures which have become out-dated, should be weeded out and replaced by new ones, to suit the latest needs of office, a periodical review should be undertaken.

One of the ways to ensure that the procedure laid down is being observed is to make a periodical inspection of the working of a section. The purpose of inspection should be to see to what extent the prescribed office procedure is being followed, the reasons therefore may be looked into as to whether the existing procedure needs improvement and, if so, in what respects. The purpose of inspection of a section can be said to be :

- (i) to find out the state of affairs existing in each unit;
- (ii) to see whether the prescribed procedure and instructions are understood properly and followed intelligently;
- (iii) to find out whether proper attention is being paid to quality of performance by officers and staff during the discharge of their duties;
- (iv) to test the intrinsic soundness and utility of the procedures and to get reliable data for planning improvements; and
- (v) to know the deficiencies noticed in the existing procedures.

Periodicity of Inspection

Inspection of each section in a Ministry should be carried out at least once in a year. Previously, in Central Secretariat each section used to be inspected half-yearly; but it was felt that inspection after six months was too early. The form of questionnaire was thoroughly revised, a number of new points included, and the periodicity fixed at one year.

However, supplementary inspections for all or any of the sections, with special reference to the nature of the work of the section (such as in Central Registry, Establishment, Cash, General Sections, etc.) can always be carried out, in addition to the annual general inspection.

Surprise inspections can also be carried out in accordance with such instructions as the Secretary may lay down.

Inspecting Authorities

Under the old orders, one of the half-yearly inspections was to be carried out by the Branch Officer in charge of the section concerned. The other half-yearly inspection used to be conducted by the Deputy Secretary in-charge of the section, or the O & M Officer or the Under Secretary in-charge of O & M. In due course of time, the inspection by the respective Under Secretary or Deputy Secretary of his own section became a mere formality, as he did not want to criticise the working of a section under him. The inspection report became lukewarm and in fact, they, instead of pointing out the deficiencies in the procedure, contained glorious compliments to the section as well as the officer in charge for giving proper guidance, training and for development of the requisite skills. In order to get an objective report, it has now been provided that, as far as possible, the inspection of a section may be conducted by an officer of or above the rank of Under Secretary who does not handle any part of the section's work. It is assumed that inspection by an officer, not connected with the section, may correctly reveal the state of affairs existing in the section.

Programme of Inspections

The internal work study unit draws up an inspec-

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tion programme, every quarter, for the approval of the Secretary. It indicates :

- (i) the names of the sections to be inspected;
- (ii) the names of the officers who would inspect them ; and
- (iii) the months during the following quarter in which the inspection is to be carried out.

While drawing up the programme, the months of seasonal rush of work in a particular section, e.g. Accounts Section (s) during Budget Session of Parliament; Political Section during the Sessions of Parliament, etc., should be avoided for inspection. This will not dislocate the work of the section.

At the end of every quarter, the work study unit is to submit to the Secretary a report indicating whether the programme of inspection for the previous quarter was carried out.

Inspection Reports

The inspecting officer will endorse a copy of his report to :

- (i) the Branch Officer concerned;
- (ii) the Section Officer concerned; and
- (iii) the O & M Officer

Action on the Report

The Section Officer will take all possible steps to rectify the defects pointed out in the report and submit a compliance report to the Branch Officer within three months. A copy of the compliance report will also be sent to the O & M Officer. The O & M Officer, after obtaining the comments of the Branch Officer, will submit the file to the Secretary. In addition, he will bring to the notice of the Department of Personnel & Administrative Reforms :

- (i) deficiencies noticed in the existing procedures;
- (ii) suggestions received for improvement of procedures and common to all deptts, together with his comments thereon; and
- (iii) any other points of general application emerging from the inspection.

Points for Checking

There are several points that are usually ignored in a Section and it would be worthwhile to pay special attention to those points at the time of inspection. Some of these points may be listed as under :

- (i) Is the Section having a list of subjects allotted to different sections in the Ministry?
- (ii) Is there any Reference Folder, Standing notes, available in section?
- (iii) Are the receipts diarised after a lapse of 15 days distinguished?
- (iv) Whether file numbers are given against each diary?
- (v) Whether "come back" cases entered in the Assistant's diary?
- (vi) Whether new files opened have been indexed and if so whether under the appropriate heads?
- (vii) Whether the name, designation and telephone number of the signatory on the office copy indicated?
- (viii) Whether retention schedule for records maintained?
- (ix) Whether previous and later references on the file covers indicated?
- (x) How watch is being kept on disposal of important receipts?

The above list is only illustrative in nature and not exhaustive.

Quality of Disposal

(i) The quality of disposal is bound to improve if various aids to work are properly maintained and used in the disposal of the work. These may include the guard files, reference folders, reference books, standing notes, precedent book, etc. It is absolutely necessary for improving the disposal of work, in quantity, quality and speed, to maintain them in an upto-date form.

(ii) If two or more State Governments, etc., are to be consulted simultaneously, the tabulation of replies should be started as replies begin to arrive and not held over till the receipt of all the replies.

(iii) It may be examined whether communications from MPs recognised associations, public bodies, etc. have been acknowledged suitably and final replies sent.

(iv) Whether drafts have been prepared in simple and straightforward cases or those of a repetitive nature for which standard forms communications exist?

(v) Whether draft has been put up without knowing the line of action even in cases involving policy matters?

(vi) Whether the staff is being properly guided by the supervisors and at higher levels? and

(vii) Whether the check lists for incoming and outgoing reports and returns are being maintained and whether the reports/returns are being submitted in time, etc., etc. □

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/Officer to be contacted
December 7-11, 1987	Seventh Triennial International Conference on Thin Films, (ICTF-7)	To take stock of recent progress in the field of science, technology and applications of their films.	Indian Institute of Technology, New Delhi, in collaboration with IUVSTA Thin Film Division and Indian Vacuum Society.	Dr. Lalit Malhotra, Secretary, ICTF-7, Thin Film Laboratory, Deptt. of Physics, Indian Institute of Technology, New Delhi-110016.
December 16-18, 1987	International Symposium on Electronic Devices, Circuits and Systems.	To provide a forum to research workers all over the world for exchange of information and technical perceptions in electronic devices, circuits and systems.	Indian Institute of Technology, Kharagpur.	Prof. N. B. Chakravarti, Department of Electronics and Electrical Communication Engineering, Indian Institute of Technology, Kharagpur-721302
December 18-19, 1987	National Conference on Role of Universities in Implementation of New Education Policy.	The Conference will focus on Management of Higher Education, Improvement in Efficiency and New Strategies in Higher Education vis-a-vis New Education Policy	Association of Indian Universities in collaboration with Osmania University, Hyderabad.	Dr. V Natarajan, Project Director (Exams) Association of Indian Universities, 16, Kotla Marg, New Delhi-110002
December 23-26, 1987	XVI All India Conference of the Indian Association of Special Libraries and Information Centres (IASLIC)	To discuss the Challenges of the Emerging Information Society : National Policy Issues.	Sri Venkateswara University Library, Tirupati	Shri R. Sreepathi Naidu, Organising Secretary & Librarian, Sri Venkateswara University Library, Tirupati 517502
December 28-30, 1987	Third National Conference on Surfactants, Emulsions and Biocolloids.	To provide an opportunity to technologists and experts from academic and research institutions and industries to exchange views and discuss developments related to latest findings from active research.	Aligarh Muslim University in collaboration with Indian Society for Surface Science and Technology.	Dr. H.N. Singh, Reader, Department of Chemistry, Aligarh Muslim University, Aligarh.
December 28-31, 1987	33rd All India Library Conference	To discuss various aspects of modernisation in Libraries	Bharathidasan University in collaboration with Indian Library Association	Mr A Sandararajan, Organising Secretary, 33rd All India Library Association, Bharathidasan University Library, Tiruchirappalli 620023
February 5-6, 1988	National Seminar on Interaction between Institutions and Industries through Science and Technology Entrepreneurs' Parks	To provide a forum of young entrepreneurs, industrialists, scientists and educationists to deliberate on the vital issues of Industry-Institution interaction.	STEP, Roorkee and University of Roorkee, Roorkee	Prof M P. Jain, Organising Secretary, National Seminar HISTEP, Office of the DRIL, University of Roorkee, Roorkee-247667
July, 12-14, 1988	International Symposium on Recent Advances in Male Reproduction	The Symposium will focus on Molecular Biology of Testis, Androgen Binding Protein Regulation of Fertility, Peptides in Testis Function and Steroidogenesis in Testis	University of Hyderabad in collaboration with the Indian Society of Andrology	Prof. P.R.K. Reddy, School of Life Sciences, University of Hyderabad, Hyderabad 500134
September 26-28, 1988	International Conference on Welding Technology in Developing Countries	To provide an opportunity to scientists and technologists from developing and advanced countries to share their experiences in the area of Welding Technology.	University of Roorkee, Roorkee	Prof. P.C. Gupta, Organising Secretary, International Conference on Welding Technology in Developing Countries, Department of Mech. & Ind. Engg., University of Roorkee, Roorkee-247667

Group Discussion on Office Management

A group discussion on Office Management was organised by the Association of Indian Universities (AIU) at MONIRBA, Allahabad University from November 2 to 5, 1987. The group consisted of 38 senior university administrators like Controllers of Examinations, Deputy Registrars and Assistant Registrars from as many as 30 universities and institutions of national importance all over the country. Mr. Justice S.D. Agarwal of Allahabad High Court, who is a well known authority on U.P. Universities Act, inaugurated the discussion. He emphasised the necessity to mitigate litigations in educational institutions. He desired that the university administrators should be sympathetic towards the students and members of faculty as they are very sensitive people. They need a patient hearing of their grievances. He advised the university administrator to take decisions based only on principles of natural justice. They should invariably be given a fair chance of hearing and provided an opportunity to represent to higher university bodies. Maintenance of records also plays a vital role. He wanted the educational administrators to present their case before courts with full facts and detailed information so that the courts are well informed about the real issues. This will go a long way in getting the correct decisions from the courts on all academic issues.

Prof. Wahid Uddin Malik, Vice-Chancellor, Allahabad University, in his presidential remarks described the university as a vibrant organisation, where different sections have to be given due regard. The administrators should always have a feeling of deep commitment towards the educational institutions, he said.

Mr. Anjani Kumar, Joint Secretary, AIU, briefly mentioned the problems of training university administrators. This activity, undertaken by the Association recently, has been very well received by the universities. He said the universities are providing training for all the professions but it has somehow ignored to look to its own requirements. The result is that the administrators in universities have to climb up their own ladder and learn by job experience alone. There are no organised regular training programmes for them. The AIU is trying to fill this gap. It has already organised programmes for the Vice-Chancellors, Pro-Vice-Chancellors, Deans and senior faculty members, and Registrars. Now it is proposed to extend these programmes to other categories of university administrators like Controllers of Examinations, Finance Officers, Security Officers, etc.

He welcomed the Vice-Chancellor and members of the various

Faculties of the Allahabad University and thanked the University Grants Commission (UGC) for providing liberal grants to meet travel expenses of the participants.

Prof. B. N. Asthana, Vice-Chancellor, Kanpur University and Prof. J.S. Mathur, former Head of the Department of Commerce & Business Administration, Allahabad University, participated in the panel discussion on 'Leadership Style and Motivation'. Prof. Asthana raised issues like whether the authority is inherent in the position of Vice-Chancellor or it has to be earned? What leadership style should be adopted? He felt that the inherent authority in the university was with the university bodies. He was also of the view that the leadership in the academic world has to be earned and sustained. A leader must always be on the run. According to him a leader has to be a dynamic person. In dealing with different situations, lines of communication should always be kept open. A sense of humour plays an important part in diffusing tensions.



Prof. W.U. Malik, VC, Allahabad University delivering the presidential address. Seated on his left are Dr. P.C. Sharma, Mr. Justice S.D. Agarwal, Dr. G.C. Agarwal and Shri Anjani Kumar, Joint Secretary, AIU.

Prof. J. S. Mathur was of the view that the leader should feel that he is an integral part of the organisation and the organisation belongs to him. It is only then that a leader can be successful. He felt that Gandhian style of leadership should be evolved. In his view the main cause of problems of Indian universities lies in socio-economic situation prevailing in the country and not in the organisation. His presentation was followed by a session on 'Motivational Aspects of Management'. According to Prof. Mathur, there are different kinds of needs—basic needs and psychological needs. He emphasised the personal touch in university administration.

Prof. Jagdish Prakash in his presentation on 'Office Management' emphasised the necessity of having a modern office as it is the nerve centre of any organisation. The basic function of an office is to provide correct and timely information so that right type of decisions can be taken. He was of the opinion that offices are not properly maintained and managed because the people who run these offices are not given proper recognition and status by the society. He felt that the office management can be improved considerably by proper decentralisation, delegation of authority and development of team spirit in the workers.

Dr. K. G. Virmani, Senior Fellow in the National Institute of Educational Planning and Administration (NIEPA) spoke on 'Time Management'. He stressed scientific management of time at the individual level and the departmental level. He referred to the use of various calendars like job calendar, section calendar, activity calendar and human suffering calendar. Management of personal time in office requires careful planning. Dr. Virmani emphasised the necessity of conserving time. He said that the time in office could be

divided in terms of four kinds of activities—routine jobs, regular jobs, special work and productive work. The routine jobs should be delegated and a provision made for unforeseen special work. Some time should invariably be reserved for doing productive work. He quoted Murphy's Laws which are based on the following principles :

- (1) Nothing is as simple as it looks;
- (2) Everything takes more time than one anticipates; and
- (3) If anything can go wrong then it will.

In the opinion of Dr. Virmani, time is wasted because of lack of work objectives, failure to delegate, failure to communicate, failure to plan and anticipate, and due to frequent interruptions in the work schedule. Taking 'importance' and 'urgency' as the criteria he drew a two by two table to conclude that :

- (a) work which is low in importance and also in urgency should always be delegated;
- (b) a work which is high in importance as well as in urgency should not be delegated;
- (c) a work which is high in importance but low in urgency should be delegated to a highly responsible person; and
- (d) a work which is low in importance but high in urgency should be delegated to a man of action.

Prof. G. C. Agarwal, Head, Department of Commerce & Business Administration and Dean, Faculty of Commerce, University of Allahabad also spoke on 'Time Management'. He felt that killing time is committing suicide and murder. Time is a valuable resource which is entirely different from other resources because it is irreplaceable. Hence time has to

be managed efficiently and effectively. For managing time, one has to appreciate the shortage of time at one's disposal. On the basis of studies made in universities, hospitals and educational institutions, he pinpointed the following causes for wastage of time : Telephone interruptions, unwelcome visitors, unwanted delegation, attending frequent meetings, lack of definite objectives, crisis management i.e. time spent in solving crisis, and inability to say 'NO'. He said that preventive measures could be adopted for plugging the leakage of time and suggested that time control chart should be prepared for analysing time utilisation. This chart will reveal the various deviations due to controllable and uncontrollable factors. It is the former that calls for preventive measures. The nuisance value of interruptions can also be pinpointed. He said that the deviation in time control charts arise mainly due to the following reasons : (1) at the end of the day a large number of 'Must' have not been carried out while a large number of 'should' have been carried out; (2) Some of the priority tasks happen to be unpleasant and that is why one is hesitant in implementing them; (3) a difficult job, although urgent, is postponed; (4) one may be attracted to a particular type of work because of some interest. He suggested a self-disciplinary approach so that the priority tasks are given due importance even though they are unpleasant, difficult and uninteresting. He said that the time control chart enables everyone to differentiate between important and unimportant matters. Urgent matter is one which should be done immediately and important is one which cannot be postponed. Dr. Agarwal also dwelt on the problem of 'over loaded' and 'empty' plates. The former arises because of the techni-

que of management by crisis which is different from crisis management.

Shri J.K. Jain while discussing the Forms of Communications underlined the importance of efficient communication. He was of the view that a good manager or administrator needs to be good communicator as well. Communication is a means of expressing or conveying feelings which may be classified as internal and external, formal and informal, oral and written.

Prof. B.S. Sharma, Pro-Vice Chancellor, Indira Gandhi National Open University spoke on the 'Management Information System'. He felt that MIS in universities is only operation control system which is person or activity specific and not system specific. As such MIS should not be regarded more than a tool to enable us to monitor the direction in which the organisation or the activity is moving. It should provide us information so that it enables us to become efficient and effective. Thus the concept of MIS in Educational Institutions should be an Action Concept. For introducing the MIS, he observed, that one should visualize at his own level what information he needs. He recommended that the system should satisfy the norms of criticality and controllability of mixed information i.e. quantitative as well as qualitative. The volume of information should be manageable and timeliness in MIS should be observed so that corrective actions may be taken to convert data into information.

Prof. J.S. Mathur, while dealing with 'Interpersonal Relationship' narrated numerous anecdotes from the life of Gandhiji and other personalities. He observed that communications of objectives should be specific and for that one has to touch the felt needs of the people. The problems must be reduced to the level of people to whom one is

talking; and the role of the Informed Groups in the organisation has to be assessed. For interpersonal relationship, congenial, and homely environment has to be built and in building this the role of the top man in the institution cannot be over-emphasised.

Dr. S.P. Singh, who dwelt on the Leadership Style and Motivation, observed that there is no short cut to leadership because it is the ability of the manager to induce his subordinates and followers to work for the accomplishment of the organisational objectives with zeal and confidence. He observed that leadership has two important functions—to invent and use appropriate motivators for the subordinates and to inspire the followers and imbue them with a sincerity of purpose. Most of the leaders have failed to inspire because there is a yawning gap between their rhetoric and record, and (2) leaders create cliques among subordinates—'our man is the right man, although right man may not be our man'. Dr. Singh suggested that we should adopt tools to the problem and not the problem to the tool.

Dr. P C. Sharma, in his presentation on 'Evaluation and Plan of Action' tried to differentiate between management of business and management of institutions. He felt that service institutions are real growth sectors in the modern society. As such the performance of educational institutions cannot be measured in economic terms. He was of the view that performance of educational institutions has not been very impressive. The main reason is that our managers are not business like. By and large the educational institutions are not cost conscious. They lack effectiveness. In educational institutions, the targets are not clearly defined and the objectives are not very clear. Therefore priorities cannot be properly laid and deadline can-

not be formulated.

Shri S. R. Joshi, Deputy Director, Institute of Secretarial Training & Management (Personnel), New Delhi in his presentation on Office Management and Work Improvement emphasised the value of checks and balances. He was of the view that paper management is very important in any office. The main function of an efficient office is collection, compilation, processing and presentation of information and finally communication of the decisions. He was of the view that checks have to be exercised at every point right from the receipt of dak to the filing system and presentation of information. In his opinion there are two types of delays : (1) Submission delay, and (2) Process delay. He illustrated them by giving the example of weekly arrears statement and also case sheets. He also discussed the problem of work improvement and inspection and talked of communication skills and attitudes for work improvement. He felt that the maintenance of standing Guard File, Precedent Book and Standing Note may be very helpful.

Dr. K.K. Bhutani, Head, Department of Electronics and Computer Centre, University of Allahabad, spoke on the utility of computers and explained the computer terminology. His presentation was properly illustrated with numerous charts, diagrams and slides. He also spoke on different types of computers being used in India and pleaded for their effective use in the university system.

Prof. W.U. Malik, Vice-Chancellor, University of Allahabad in his valedictory address stressed the importance of the work of university administrators and pleaded for their strong commitment to their jobs. He distributed the Certificates and souvenirs to the participants. □

IIT-Industry Nexus

The private sector and the Indian Institutes of Technology (IITs) are reported to have embarked on a major co-operative venture to realise the unutilised potential in technology development. Key areas identified for joint action include research and development, personnel exchange and setting up of university-industry foundations and technology parks.

The proposal is understood to have been discussed at a recent meeting of the chairmen and directors of IITs with the representatives of the Confederation of Engineering Industry (CEI) and it has been decided to constitute joint task forces on specific areas such as energy conservation, environment protection and pollution control, new materials, system engineering, low-cost automation, technology scanning and foreign collaborations, reliability and maintenance engineering. These task forces will report on the approach to be adopted in these areas to another meeting of chairmen and directors of IITs with the CEI members to be held soon.

It was decided that IITs will enter into a memorandum of understanding with CEI to formalise the co-operation in research and development.

The meeting noted that the 2,000-strong IIT faculty is not being properly utilised by the industry. It was felt that the industry will benefit by using the research and development expertise available with the faculty, including the resources for scanning and assessment of technologies. A joint effort will help create a formidable technology data bank for use by the industry.

It was proposed that industries should provide two/three months' exposure to select faculty members to discuss industry problems. A similar exchange for industry representatives will be useful to communicate and establish a rapport with the institutes.

The meeting also discussed a proposal for a group of industries setting up R & D facilities in the institutes, which can be used by both.

It was decided that an apex group of CEI-IIT representatives will review and develop an action plan to set up industry foundations in the institutes.

Development of Self Instructional Material

Prof. G. Ram Reddy, Vice-Chancellor of Indira Gandhi National Open University called for close-knit co-ordination between the open universities of the country for maintenance of high standards in distance education. He was inaugurating a six-day workshop on Development of Self-Instructional Material organised by the Andhra Pradesh Open University in collaboration with the Indira Gandhi National Open University. Prof. Ram Reddy, stressed the need for constant interaction between various open universities so as to avoid duplication of courses.

Presiding over the function, the Vice-Chancellor of Andhra Pradesh Open University, Prof. C. Narayan Reddy said that the university had decided to offer courses in Kuchipudi dance and carnatic music. The courses would begin by the end of next year. He

urged the participants to be innovative in approach, while developing self-instructional material for distance education. The material has to be so devised as to enable effective self-study, particularly by students in isolation, as majority of them are adults drawn from different social, occupational and educational backgrounds, he explained.

The workshop was intended to acquaint the teachers with the techniques of multi-media material production. The resource persons for the workshop were drawn from the Indira Gandhi National Open University and the International Extension College of London.

Over 50 teachers who were full time staff of the A.P. Open University attended the workshop.

Advanced Computer Centre for Pune

A Centre for Development of Advanced Computing Technology (C-Dact) will be set up in Pune at a cost of Rs. 37 crore. This was announced by Shri K. R. Narayanan, Union Minister of State for Science and Technology in Lok Sabha recently. The project would be completed in 3 years time.

He said there was also a proposal for development of a parallel processing computer for special applications by Tata Institute of Fundamental Research (TIFR) and Centre for Development of Telematics (C-Dot).

Mr. Narayanan said the Government was also setting up a network of computer centres called NIC net in all the State capitals/Union Territories and district headquarters to create information processing facilities for use by both States and Central Government departments.

Each district centre would cost about Rs. five lakh including the computer and earth station for satellite link. The State level computer centres would cost Rs. 80 lakh each. The total financial involvement for setting up the network (NIC net) is Rs. 120 crore.

Symposium on Radiation Physics

Dr. P. K. Iyengar, Director of the Bhabha Atomic Research Centre (BARC); said the living standards of people could be improved only by giving priority to science education in the country. Dr. Iyengar, who is also President of the International Radiation Physics Society said that Radiation Physics covered a whole spectrum of science, and nuclear science was the most fundamental sector. They had to investigate why the atom, gold and uranium were created in the universe and their contribution to society. Dr. Iyengar was inaugurating the Seventh National Symposium On Radiation Physics at the Mangalore University.

He said discoveries in science were a continuing process and youngsters, specially in universities, had an important role to play in experimental discoveries. He stressed the need for more interaction between disciplines which were not directly connected with Radiation Physics, for better results.

Scientists from Yugoslavia, Japan and the US, besides a large number from all over the country, participated in the five-day symposium.

Peace Messenger Award for Gujarat Vidyapith

The Peace Research Centre of Gujarat Vidyapith was recently presented the United Nations'

"Peace Messenger Award". The Award was given in recognition of the important contribution the Gujarat Vidyapith made to the programme and objectives of the International Year of Peace which was celebrated all over the world last year. The presentation ceremony was held at Ahmedabad in the presence of Dr. Bhaichand Patel, Director of the United Nations Information Centre, Delhi who presented the award to Prof. Ramlal Parikh, Vice-Chancellor on behalf of Javier Perez de Cuellar, the Secretary-General of the United Nations. Receiving the Award Prof. Ramlal Parikh said that the United Nations, by conferring such an Award to the Gujarat Vidyapith, had recognised the significance of Gandhian values and ideals. He also shared his experience of the U. N. meeting on 'Disarmament and Development' held in September, 1987.

Speaking on the occasion Dr. Bhaichand Patel referred to the major global problems of our time mainly nuclear arms race, regional and local conflicts, the deadly effects of disease and poverty, and the misery of famine and drought. He said that United Nations was trying to solve these problems. What we required was the harmonized relations between nation-states to mobilise the resources and knowledge to solve these problems.

Mr. Vinod Tripathi, Registrar of Gujarat Vidyapith welcomed the chief guest while Professor D N. Pathak gave the broad outline of activities of Peace Research Centre, since its inception in 1971. These include conducting workshops, seminars and lectures, teaching and research, publication, and Library collection.

National Convention of Computer Engineers

The Second National Conven-

tion of Computer Engineers was held recently at Bangalore under the auspices of Institution of Engineers (India), Karnataka State center. In the inaugural session Dr. P.K. Patwardhan, Chairman, Computer Engineering Division, Institution of Engineers (India) and Head, Computer Division and Chairman, Technology Transfer Group, Bhabha Atomic Research Center, Bombay, spoke on 'Take-off in the 21st century with High-Tech. for social change'. In his address he touched on the serious problems of manpower shortage in the field of computer and suggested possible solutions to overcome this problem in the near future. Dr. V. Rajaraman, Professor, Indian Institute of Science, Bangalore delivered the keynote address on 'Super Computers'.

Papers were presented at four technical sessions, viz., Quality and Reliability; Reliability and Engineering Applications; Computer System; and Engineering and Design Applications. Besides a workshop on 'Computer Simulation' and an exhibition of computer products were also organised on the occasion.

High Grade Clays

Very High Grade (Grade I, I.S.I.) clay deposits comparable to Amazon (Brazil), Georgia (U.S.A.), and Basaria (W. Germany) have been discovered in the vicinity of approx. 1.5 kilometers north of Masudpur Village and 1 km. South of Basant Gaon in New Delhi. According to the field survey and laboratory investigations, carried out by the Indian Institute of Technology Delhi, the deposits may have a vast potential deposit for future exploitation for use in medical, textile, rubber, paper, paint, plastic and ceramic industries.

Subjected to proper levigation and

beneficiation, it would prove to be a very high grade clay so far not found in Delhi Area.

The discovery has been reported in a paper entitled "High Grade Clays of Delhi-Kusumpur Clay, Mining Area" by Prof. P. Kumar of the Department of Civil Engineering published in "Indian Potter" of Indian Potteries Association, Calcutta.

Staff College for Gauhati Varsity

An Academic Staff College is proposed to be set up at Gauhati University during 1987-88. The University Grants Commission (UGC) is stated to have approved the proposal of the University in this regard. The proposed college will serve the Universities of Assam and Manipur.

issues of the technology.

The course seeks to train graduates who are embarking upon a career in biotechnology and to educate working professionals in the potential of the subject. It will also build upon the expertise in biotechnology which already exists at Monash and will complement the work of biotechnologists at the Commonwealth Scientific and Industrial Research Organization.

News from Agril. Varsities

New Grain Variety

The National Bureau of Genetic Plant Research's regional station at Shimla has developed a high-yielding, drought resistant variety of grain called Annapurna. The new variety is a result of 12 years of research by two senior scientists, Mr. B. D. Joshi and Mr. T. A. Thomas.

Annapurna holds great promise for hilly regions as it is suited for the harsh conditions of the hill. It can be grown in rainfed areas as well as droughtprone areas of plains with less than 200 mm of rainfall. It gave an average yield of 22.3 quintals per hectare after tests carried out in Shimla, Almora, Solan and Shillong, from 1982 to 1986.

It is highly nutritious (14.5% protein) and is a rich source of lysine. It germinates five times and can be stored for 50 years without any loss of quality. No pest has been observed on the seed even after prolonged storage.

A combination of Annapurna with other grains like wheat and maize gives even better protein than milk. The leaves of the plant are edible and rich in protein, iron and vitamins A and C.

It can be used for products like bread, pastries and biscuits. It can also be used for producing high quality starch, dyes and laxatives. Squalane—an expensive material, normally obtained from shark liver and widely used in the cosmetic industry—has also been found in the new grain.

The MB degree is offered to honours graduates in science or engineering as a year-long full-time course, with provision to take two years to complete, if necessary.

Karnataka Studies Programme

The University of Iowa, USA, is contemplating to start a 'Karnataka studies programme', to give an impetus to the study of Kannada language and literature in that country. Outlining the programme Prof. Sheldon Pollock, Head of the Iowa Asian Language, Literature and Religious Studies Department, said that details regarding the establishment of an endowment chair in Kannada and exchange programmes were being worked out

Student and staff exchange programmes with higher education institutions in Karnataka and offering of Fellowships to American and European students to study Kannada are also envisaged in the three-year programme.

News from Abroad

New Course for Genetic Engineers

Monash University in Melbourne proposes to introduce a Master of Biotechnology (MB) degree course from the current academic session. The course will teach genetic engineering and other bio-technology techniques, as

well as methods of applying the technology to industry, medicine, agriculture, engineering and other fields. The curriculum also will include analyses of the impact of biotechnology on industrial management and legal and ethical

Prof. Pollock, who had discussions with the Chief Minister, Mr. Ramakrishna Hegde, on the programme, said the State Government had offered to contribute Rs. 2.5 lakh US dollars for the chair for which 1.2 million dollars were required.

Golden Heart for Swaminathan

Dr. M. S. Swaminathan, Director General of the International Rice Research Institute (IRRI) was recently presented the Golden Heart Presidential Award for his outstanding role in strengthening IRRI as a source of knowledge and expertise to further agricultural science; his support in the establishment of the Philippine Rice Research Institute (Phil Rice); the initiation of technology transfer workshops for the exchange of ideas and information between the Department of Agriculture and IRRI; and the expansion of IRRI's capacity for "upstream research" to bring the fruits of recent advances in science and technology to Asian rice farmers.

The National Academy of Science and Technology of the Philippines (NAST) also honoured Dr. Swaminathan as the first laureate of the World Food Prize. Patterned after the Nobel Prize the World Food Prize was established this year by the General Foods Fund to recognise those who have made outstanding contribution to global food security.

Dr. Swaminathan is understood to have converted his cash award of \$ 200,000 to a special fund for several projects designed to link small farmers and agricultural scientists. One project will be the production of mushroom culture spawn to enable women from landless-labour families in Pangasinan, Philippines to grow mushrooms on rice straw compost.

The award was presented to Dr. Swaminathan by the Philippines President, Mrs Corazon Aquino. He is the first foreigner to be conferred the prestigious award by the Philippines administration.

TWAS Awards 1986

The Third World Academy of Sciences has announced awards for the Basic Sciences in the fields of Physics, Chemistry, Biology and Mathematics for the year 1986. The recipients of the Awards are :

Physics : Prof. Zhong-xian Zhao, China, for his fundamental and pioneering contributions to high temperature superconductivity, in particular for achieving the superconductivity above liquid nitrogen temperature in Ba-Y-Cu-O system.

Chemistry: Prof. Saad S. M. Hassan, Egypt, for his fundamental contributions to Modern Analytical Chemistry, in particular for developing new simple and selective micromethods for the analysis of

pharmaceutical and biomedical compounds.

Biology : Prof. Mysore Ananthamurthy Viswamitra, India, for his fundamental contributions to the understanding of DNA Structure, in particular for his discovery of sequence dependent fine structure in DNA segments in single crystals.

Mathematics : Prof. Mauricio Matos Peixoto, Brazil, for his fundamental and pioneering study of structural stability of dynamical systems, in particular for proving that flows on closed surfaces are generically structurally stable.

Each award consists of a prize amounting to US \$ 10,000 as well as a medal on which major contributions of the Award winner will be mentioned.

Sports News

Varsities Football Team

Calicut's Student to Lead

K. Surendran of Calicut University has been named as the Captain of the Indian Universities Football Team which was selected at three-day selection trials organised at Burdwan University. Other members of the team are: Baburaj C.K. (Calicut); Sanjay Anand (Delhi); Harikrishnan S. (Gandhiji); Siba Prasad Deb (North Bengal); Mathew Varghese (Calicut); Harish Chander (Delhi); V.M. Mohammed Azeem (Gandhiji); Abhishek Ghosh (Burdwan); Vijay Dasrath (R.D. University); Liston C.A. (Calicut); Satish Kumar (Jiwaji); Mohamed

Sajid P. K (Kerala); Debabrata Ghosh (Kalyani); Kishore Kumar K.C. (Sri Venkateswara); and Hardhan Saha (North Bengal).

The team is at present under training at Burdwan University under the supervision of Mr. R.N. Bhattacharya, Football Coach. It will play against Ex-International XI comprising former National Football players who have represented the country in various International events. The match is being organised as part of the celebrations of the 40th year of Indian independence.

AIU Library & Documentation Services

One of the important functions of the Association of Indian Universities is to act as a clearing house of information on higher education in the country. Towards this end the AIU Library is engaged in collection building and developing instruments for the dissemination of research information. Over the years a valuable collection of books and documents on different aspects of higher education has been acquired.

The Library has also developed Bibliography of Doctoral Dissertations as an effective tool in the dissemination of research information. Retrospective bibliographies covering the period 1857-1970 and 1970-75 were the first to appear. Effective 1975, however, the bibliography is issued annually in two volumes. One volume deals with Natural and Applied Sciences while the other records doctoral degrees awarded in Social Sciences and the Humanities. In addition to the normal bibliographical details like the name of the Research Scholar, the title of the thesis, years of registration for and award of the degree, and the name of the University accepting the thesis for award of a doctoral degree, the bibliography also gives name and complete address of the supervising teacher and an availability note that seeks to inform whether a copy of the dissertation is available for consultation and use in the University Library/Department or Registrar's Office.

The columns 'Theses of the Month' and 'Research in Progress' are intended to cut out the time lag between the receipt of information and its inclusion in bibliography. Such Universities as are not sending us regular information in respect of Doctoral Theses accepted and research scholars enrolled are welcome to make use of these columns.

The Library is open from 9.00 a.m. to 5.30 p.m. Monday through Friday.

RECENT DOCUMENTATION IN EDUCATION

A List of Select Articles culled from Periodicals received in the AIU Library during October, 1987.

EDUCATIONAL PHILOSOPHY

Partington, Geoffrey. The concept of progress in educational thought : Instrumentalist theories considered. *Oxford Rev. Edn.* 13(2), 1987, 141-49.

EDUCATIONAL PSYCHOLOGY

Barer-Stein, Thelma. Learning as a process of experiencing the unfamiliar. *Studies Adult Edn.* 19(2), 1987, 87-108

Bharadwaj, Khazan Singh. Humour in the Indian classroom : A study of classroom situations and materials. *Ind. Dissertation Abstracts* 15(3) 1986, 324-27.

Calderhead, James. Developing a framework for the elicitation and analysis of teachers' verbal reports. *Oxford Rev. Edn.* 13(2), 1987, 183-89.

Entwistle, Noel. Motivation to learn : Conceptualisations and practicalities. *British J Ednl Studies* 35(2), 1987, 129-48.

Highhouse, Scott and Doverspike, Dennis. The validity of the learning style inventory 1985 as a predictor of cognitive style and occupational preference. *Ednl. Psy Measurement* 47(3), 1987, 749-53.

Jain, M.C. The interactive effects of first and second order personality factors, educational interests and sex on scholastic achievement (with special reference to Deviant Adolescents). *Ind. Dissertation Abstracts* 15(3), 1986, 383-86.

EDUCATIONAL SOCIOLOGY

Palmer, Parker J. Community, conflict, and ways of knowing : Ways to deepen our educational agenda. *Change* 19(5), 1987, 20-5.

EDUCATIONAL PLANNING

Alexander, D J. Rural development : Educational needs and resources. *Studies Adult Edn.* 19(2), 1987, 137-44.

EDUCATIONAL ADMINISTRATION

Lane, Jan-erik. Against administration. *Studies Hr. Edn.* 12(3), 1987, 249-60.

EDUCATIONAL RESEARCH

Khattab, Ali-Maher. Transformation abilities : A reanalysis and confirmation of Soi theory. *Ednl. Psy Measurement* 47(3), 1987, 597-606.

CURRICULUM

Becher, Tony. Disciplinary discourse. *Studies Hr. Edn* 12(3), 1987, 261-74.

TEACHERS & TEACHING

Buchmann, Margret. Teaching knowledge; the lights the teachers live by. *Oxford Rev. Edn.* 13(2), 1987, 151-64.

Leftwich, Adrian. Room for manoeuvre : A report on experiments in alternative teaching and learning methods in politics. *Studies Hr. Edn* 12(3), 1987, 311-24.

Ramsden, Paul. Improving teaching and learning in higher education : The case for a relational perspective. *Studies Hr. Edn* 12(3), 1987, 275-86.

Tribe, Diana M. and Tribe, A.J. Law-teach : An interactive method for effective large group teaching. *Studies Hr. Edn* 12(3), 1987, 299-310.

Wagner, Jon. Teaching and research : As student responsibilities. *Change* 19(5), 1987, 26-35.

EDUCATIONAL TECHNOLOGY

Entwistle, Noel and others. Anticipating the experience of higher education through computer simulation. *Hr. Edn* 16(3), 1987, 337-55.

Fisher, Francis Dummer. Higher education Circa 2005 : More higher learning, but less college. *Change* 19(1), 1987, 40-45.

Lunneborg, Clifford E. Bootstrap applications for the behavioral sciences. *Ednl. Psy Measurement* 47(3), 1987, 627-29.

EVALUATION

Ball, Robert and Halwachi, Jahl. Performance indicators in higher education. *Higher Edn*, 16(4), 1987, 393-405.

Bannister, Brendan D and others. A new method for the statistical control of rating error in performance ratings. *Ednl Psy Measurement* 47(3), 1987, 583-96.

Ewell, Peter T. Assessment, Where are we ? *Change* 19(1), 1987, 23-34.

Luecht, Richard M. Test PAC : A program for comprehensive item and reliability analysis. *Ednl Psy Measurement* 47(3), 1987, 623-26.

Magnusen, Karl O. Faculty evaluation, performance and pay : Application and issues. *J. Higher Edn* 58(5), 1987, 516-29.

Marsh, Herbert W. Students' evaluations of university teaching : Research findings, methodological issues, and directions for future research. *Ednl Res* 11(3), 1987, 257-388.

Sadler, D. Royce. Specifying and promulgating achievement standards. *Oxford Rev Edn* 13(2), 1987, 191-209

Spangeli, Stephen, D. The push to assess : Why it's feared and how to respond. *Change* 19(1), 1987, 35-9.

Tiberius, Richard G. and others. A comparison of two methods of evaluating teaching. *Studies Hr Edn* 12(3), 1987, 287-98.

Yonker, Robert J. The high school and beyond cognitive test : Evidence of criterion-related validity. *Ednl Psy Measurement* 47(3), 1987, 719-24.

ECONOMICS OF EDUCATION

Adiseshiah, Malcolm S. Linking higher education and employment. *Bull Madras Development Seminar Series* 17(10), 1987, 515-18.

Hannah, Leslie. Human capital. *Oxford Rev Edn* 13(2), 1987, 177-81.

SCIENCE EDUCATION

Byrne, Michael S and Johnstone, Alex. H. Critical thinking and science education. *Studies Hr Edn* 12(3), 1987, 325-40.

ADULT EDUCATION

Draper, James. Universities and non-formal adult education. *Convergence* 19(3), 1986, 70-5.

Duke, Chris. Relationship between adult education and poverty. *Convergence* 19(4), 1986, 1-20.

Grossi, Francisco Vio. From Project bureaucracy to the flourishing of life : Elements for a new relationship in financing adult education. *Convergence* 19(4), 1986.

Stromquist, Nelly. Empowering women through education : Lesson from international cooperation. *Convergence* 19(4), 1986.

COMPARATIVE EDUCATION & COUNTRY STUDIES

Kondakov, Mikhail I. The road to educational reform in the USSR. *Prospects* 17(1), 1987, 27-35.

Moses, Ingrid. Educational development units : A cross-cultural perspective. *Higher Edn* 16(4), 1987, 449-79.

Silius, Harriet. A comparative perspective on Finnish higher education policy. *Higher Education* 16(4), 1987, 417-32.

THESES OF THE MONTH

A List of Doctoral Theses Accepted by Indian Universities

BIOLOGICAL SCIENCES

Anthropology

1. Guha, Kamlesh. *The crossbow complex in tribal culture : A study in historical anthropology*. Calcutta.

Marine Biology

1. Chandra Prabha, A.C. *Studies on oxygen minimum layer in the Arabian sea in relation to the oceanic circulation*. CUST. Dr. G.S. Sharma.

2. Joseph, Elizabeth. *Studies on histological and biochemical changes during spermatogenesis in Mugil Cephalus Linnaeus and related species*. CUST. Dr. P. Vedavyasa Rao.

3. Joseph, M.G. *Studies on mixed layer depth in the Arabian sea*. CUST. Dr. D. Srinivasan.

4. Kandoran, M.K. *Transfer of technology in the fish curing industry in India*. CUST. Dr. C.T. Samuel.

5. Krishnan, Anuradha. *Studies on larval nutrition in the pearl oyster, Pinctada fucata Gould*. CUST. Dr. K. Alagarswami.

6. Sarala Devi, K. *Effect of industrial pollution on the benthic communities of a tropical estuary.* CUST. Late Dr. R.V. Unnithan.
7. Subhash Chander. *Studies on ecophysiology of *Penaeus indicus* H. Milne Edwards in the grow-out system.* CUST. Dr. A.D. Diwan.
8. Thampuran, Latha. *Physiological effects of copper (II) on *Sunnetta scripta* L.* CUST. Dr. R. Damodaran and Dr. P.N. Krishnan Nambisan.

Environmental Sciences

1. Susarla, S. Kanaka Valli *Effect of some toxic metals on selected phytoplankton of Kerala waters.* CUST. Dr. K.P. Balakrishnan.

Microbiology

1. Aggarwal, Ram Paul. *Isolation of protease deficient mutants of *Pseudomonas aeruginosa* : Pleiotropic changes in extra-cellular toxins.* PAU.

Biochemistry

1. Alivelu Manga, V. *Phytochrome mediated- β -amylase activity in mustard, *Sinapis alba* L. cotyledon.* Hyderabad. Dr. R.P. Sharma.
2. Ananda Krishnan, V. *Studies on the origin of message site of synthesis and catalytic characterization of certain photosynthetic enzymes.* Madurai.
3. Subbaramaiah, K. *β -amylase from mustard, *Sinapis alba* cotyledons : Purification, molecular characterisation and photoregulation during seedling development.* Hyderabad. Dr. R.P. Sharma.

Botany

1. Annie, P.T. *Genetic studies in rice, *Oryza sativa* Linn.* Calicut. Dr. K. Pavithran.
2. Bhargava, Roma. *Regulatory role of GA_3 -receptor protein in the post-translational control of acid phosphatase activity in germinating embryos of cotton, *Gossypium hirsutum*: Purification and characterization of GA_3 -receptor protein and acid phosphatase enzymes.* Delhi.
3. Bhuskute, Shriram M. *Embryological, histochemical and in vitro culture studies in the Cucurbitaceae.* Nagpur. Shri B.K. Deshpande and Shri P.H. Makde.
4. Das, Rina. *Role of calcium and calmodulin in higher plants.* JNU. Prof. S.K. Sopory.
5. Jhansi Lakshmi, Kowluru Venkata. *Studies on cross protection of blast disease on three Poaceae.* Andhra.
6. Kadam, Sukhadeo Dinkar. *Studies on pollution in the estuarine ecosystems.* Shivaji. Dr. (Smt.) L.J. Bhosale.
7. Katare, Daya Shanker. *Genetic analysis of metric and quality attributes in tomato.* HS Gour. Prof. K.M. Vyas.
8. Khanna, R.K. *Standing state of nutrition in different forest ecosystems of Kumaun Himalaya.* Kumaun. Dr. S.P. Singh.
9. Mukhopadhyay, Durgadas. *Studies of the Oedogoniales of West Bengal.* Burdwan. Dr. Pranjit Sarma.
10. Nagaraja, T.G. *Cytological, developmental and pathophysiological studies of some Indian fungi.* Shivaji. Dr. A.N. Thite.

11. Palarpawar, Maroti Yadaorao. *Studies on epiphytotes with special reference to leaf spot disease of turmeric, *Curcuma longa* L. caused by *Colletotrichum* spp.* Amravati. Dr. V.R. Ghurde.

12. Pandey, D.K. *Evaluation of some systemic and non-systemic fungicides for their efficacy in controlling foliar and seed borne diseases of barley.* Kumaun. Dr. B.S. Mehrotra.

13. Pushpa, Kurella. *Cytomorphological studies in the genus *Pennisetum* and chemical mutagenesis in *Pennisetum typhoides* (Burn) S & H.* Andhra.

14. Rathore, Rajendra Singh. *Biodegradation of keratin : Physiological and biochemical studies of keratinophilic fungi and related dermatophytes from the soils of Madhya Pradesh.* HS Gour. Dr. S.C. Agrawal.

15. Sharma, Mani Shanker. *Effect of growth regulators and retardants on growth, sex expression and yield of bottle gourd, *Lagenaria siceraria* (Molina) Standl.* Ravishankar. Dr. M.L. Sonar.

16. Sreenivasa Rao, Kottapalli. *Ecophysiological attributes of bamboo forests in successional communities in North Eastern India.* NEHU. Dr. P.S. Ramakrishnan.

17. Verma, Akhila Nand. *Studies on the physiology and biochemistry of seed germination of some forest trees of North East India.* Dr. P. Tandon.

18. Yumnam, Dilrani Devi. *Physiological studies on spores (akinetes) of the blue-green alga, *Nodularia* sp *unigena*.* NEHU. Dr. P.M. Reddy.

Agriculture

1. Bhupender Kumar. *Genetic studies of test crosses involving indigenous and exotic germplasms of maize, *Zea mays* L.* HP Krishi. Dr. S.K. Bhalla.

2. Chate, Vajnath Kondiba. *Testing a model of agricultural development and rural change in the irrigated command area, Maharashtra.* Marathwada Agri. Dr. G.K. Sangle.

3. Deepak Kumar. *Studies on crop responses and soil properties as influenced by long term fertiliser experimentation in acid alfisol of Himachal Pradesh.* HP Krishi. Dr. S.K. Bishnoi.

4. Durga Singh. *Toximetric studies of systemic fungicides against *Glomerella cingulata* (Ston) Spanld and Schrenk, causing bitter rot of apple.* Y.S. Parmar. Dr. J.L. Kaul.

5. Ganguli, Dilip Kumar. *Studies on maize germplasm complexes by live X tester analysis.* Birsia Agri.

6. Kasar, Dnyandeo Vitthal. *A study of economic aspects of seasonal migratory agricultural labour working with cooperative sugar factories in Pune District, Maharashtra.* MP Agri. Dr. R.G. Patil.

7. Medhi, Rajendra Prasad. *Effect of macro and micro nutrients on curd yield, quality, seed yield and disease incidence in cauliflower, *Brassica oleracea* L. var. *botrytis** Y.S. Parmar. Dr. A.K. Singh.

8. Nadre, Keshav Ramrao. *A study of attitude, aspiration and preference for placement of agricultural school students in rural Maharashtra.* Marathwada Agri. Dr. M.G. Bhilegaonkar.

9. Neog, Amiya Kumar. *Studies on root growth in tea.* Dibrugarh. Dr. P.C. Bora.

10. Thakur, Vijay Singh. *Studies on the effect of fungicides on apple scab, *Venturia inaequalis* (Cke.) Wint pathogenesis.* Y.S. Parmar. Dr. G.K. Gupta.

11. Varadachari, Chandrika. *Release of potassium from potash bearing silicate minerals.* Calcutta.

Zoology

1. Adolph, Clement. *Studies on oribatid mites (Acarloribatei) of Malabar*. Calicut. Dr. M.A. Haq.
2. Antony, R. *Electro physiological studies on the chemo receptors of the intestine and liver*. Manipur. Dr. N.H. Hazarika.
3. Aziz, Chhaya. *Histochemistry of trematodes*. Durgawati.
4. Bhakat, Somnath. *Studies on the grassland millipede, Streptogonopus phipsoni* Pocock (Polydesmida; Pratinidae). Burdwan. Dr. M.C. Mukhopadhyay.
5. Bhattacherjee, Reba. *Studies on caryophyllidean cestode parasites of some catfishes and histopathology of the host*. NEHU. Dr. (Mrs) V. Tandon.
6. Krishnakumar, R. *Studies on the spermatheca of some decapod crustaceans*. Calicut. Prof. K.G. Adiyodi.
7. Lakshmi, Kadiyala. *Osteology, interspecific hybridization and fishes of some Indian arid catfishes with observations on phylogeny of siluroids*. Andhra.
8. Pranab Nath. *Systematic distribution and ecology of ichthyofauna of Arunachal Pradesh with particular reference to the limnology of Itanagar lake*. Gauhati. Dr. S.C. Dey.
9. Rajput, Kailash Babu. *Studies on the mosquitoes (Diptera: Culicidae) of Manipur*. Manipur. Dr. T. Kameshwar Singh.
10. Rao, V.V.S.N. *Interaction of chemical pollutant malathion with nontarget organisms in laboratory and in natural waters*. Kumaun. Prof. R.S. Tandon.
11. Shakuntala, Avaladasu. *Studies on haemolymph amino acids, histology and histochemistry of digestive, nervous and reproductive systems of Mylabris discoidens Say (Insecta: Coleoptera)*. Andhra.
12. Sharma, Ashu. *A study of the possible existence of multiple forms of bovine seminal plasma inhibitor*. Delhi.
13. Singh, U.P. *Limnology of fish ponds in relation to fish culture*. Kumaun. Dr. J.S. Bisht.
14. Sinha, S.P. *Ecology of wild life with special reference to the lion, Panthera leo persica in Gir Wild Life Sanctuary, Saurashtra, Gujarat*. Saurashtra. Dr. R.M. Naik.
15. Trinadha Babu, Baddireddy. *Some histophysiological and biochemical studies on the edible crab, Portunus sanguinolentus Herbst (Portunidae) from Andhra Coast*. Andhra.
16. Warikoo, Pradeep Kumar. *Studies on the reproductive processes in male steroid-spermatozoa interactions in relation to sperm functions*. Delhi.

Medical Sciences

1. Ganapathy, Seru. *Phytochemical and biological studies on some plants of Verbenaceae and Apocynaceae*. Andhra.
2. Mali, Abha. *Toxicological and pharmacological studies with some indigenous plants of Bastar Region of Madhya Pradesh*. HS Gour. Dr. H.S. Maheshwari and Dr. D.D. Santani.
3. Mukherji, Gour. *Development of drug dosage forms containing 5-fluorouracil*. Delhi.
4. Vivekananda Reddy, Biyyam. *Effect of amniotic fluid on blood coagulation*. Shivaji. Dr. S.K. Ganeriwal.

Animal Husbandry

1. Parki, Nabin Kumar. *Pathology and pathogenesis of Clostridium perfringens type-D epsilon (e) toxin in goats*. Birsia Agri.
2. Sinha, Abhay Kumar. *Studies on Yersinia enterocolitica*. Birsia Agri.

SHASTRI INDO-CANADIAN INSTITUTE FACULTY ENRICHMENT GRANTS

The Shastri Indo-Canadian Institute with the support of the Department of External Affairs of Canada is pleased to announce the availability of Faculty Enrichment Grants to Indian scholars.

The general purpose of the Grants is to advance knowledge and understanding of Canada in Indian universities by facilitating visits of Indian scholars to Canada for academic contacts and exchange, and development of courses in Canadian Studies.

ELIGIBILITY: Established academics in Indian universities (1) interested in promoting Canadian Studies in their institutions, (2) with demonstrated accomplishments in their own areas of speciality, (3) who now wish to expand their speciality to include Canada.

The applicants are expected to submit a proposal indicating how their visit to Canada would enrich their area of speciality and the expected contribution to the promotion of Canadian Studies in India they will make upon returning.

TENURE: The Enrichment Grants may be held for a period of not less than 3 and not more than 5 weeks in Canada.

AWARD: The award includes international travel and weekly allowance.

Applications, which must include a detailed bio-data and proposal (seven copies each) must reach the Shastri Indo-Canadian Institute, 92 Golf Links, New Delhi-110003 not later than December 31, 1987.

CLASSIFIED ADVERTISEMENTS

UNIVERSITY OF CALICUT

[G&A II 'C' SECTION]
Calicut University P.O.

No. GA II C/11443/86

Dated : 16-10-1987

NOTIFICATION

Applications are invited from qualified candidates for appointment to the undermentioned posts in the University.

Sl. No.	Name of the Department	Category	No of Posts	Nature of Vacancy	Reservation, if any	Specialisation for the post, if any
1.	Life Science	Reader [Bio-Chemistry]	1	Temporary	ETB	Bio-Chemistry
2.	School of Drama	(a) Assistant Director [Renotification]	1	Peramament	ETB	Direction
		(b) Lecturer [Renotification]	1	Permanent	ETB	
3.	Malayalam	(a) Reader	1	Permanent	ETB	Regional Tribal Aspects.
		(b) Lecturer	1	Permanent	OPEN	
4.	Anthropology	Reader [Renotification]	1	Permanent	OPEN	
5.	Psychology	Reader [Renotification]	1	Permanent	OPEN	Organisational Behaviour
6.	Sanskrit	Professor [Renotification]	1	Permanent	ETB	
7.	Library Science	Lecturer	2	Permanent	1st ETB 2nd OPEN	
8.	English	Lecturer [Renotification]	1	Permanent	SC/ST	
9.	Russian	Lecturer [Renotification]	1	Permanent	ETB	
10.	Mathematics	Lecturer [Renotification]	1	Temporary	ETB	

Scale of Pay

1. Professor	Rs. 2450-3600
2. Reader/Asst. Director	Rs. 1950-2950
3. Lecturer	Rs. 1300-2725

In respect of the renotified vacancies at serial nos. 2(a), 2(b), 6, 8, 9 and 10 above, if no suitable candidates are available from the community for which the post is reserved, candidates from the other reserved communities will be considered for these vacancies as per rules of communal rotation. If no suitable candidate even from the other reserved communities are available for these vacancies, they will be treated as 'OPEN'.

In respect of all renotifications of vacancies shown above, those candidates who had responded to earlier notification should submit fresh application in response to the present notification.

The prescribed application forms and other details can be had from the undersigned on request, remitting the cost of Rs. 12/- in respect of each post. In the case of candidates applying from outside the state of Kerala remittances is to be made by Postal Order in favour of the Finance Officer, University of Calicut, payable at the Calicut University Post Office. Those applying from within the State of Kerala should remit the cost of the forms at a Government Treasury to the credit of the Head of Account "8443-00-106-CUF" of the Calicut University in the case of remittance in a Treasury in Malappuram District and to the credit of "8658-102-04-(1) B CUS" in the case of remittance in any other treasury in the State. The challan receipt, Indian Postal Order should be accompanied by a self-addressed cover affixed with postal stamps worth Rs. 3.40. Candidates belonging to SC/ST unemployed, physically handicapped persons and ex-servicemen eligible for pension are exempted from remitting the cost of application forms. Candidates from abroad may apply on plain paper accompanied by copies of certificates remitting application fee of Rs. 100/- and they will be given additional time of 15 days for submitting their application.

Age limits, qualification, etc. will be as prescribed in the detailed notification which will be supplied along with the prescribed application forms. The last date for receipt of application in the University Office is 21.12.1987 A.N.

Dr. S. Balaraman
REGISTRAR

**WADIA INSTITUTE OF
HIMALAYAN GEOLOGY**
(An Autonomous Organization of Department of Science and Technology, Govt. of India)
33, General Mahadev Singh Road, DEHRA DUN-248001

Advt. No. 2/87

Applications are invited by the Director, Wadia Institute of Himalayan Geology, 33, General Mahadev Singh Road, Dehra Dun-248001 for the following posts :

1. Scientist 'E' : 1-Post (Temporary but likely to continue)

Pay Scale : 4500-150-5700

Job Requirements : This is one of the senior level positions in the Institute and the incumbent is expected to have proven quality of conducting and guiding high quality research. He will be responsible to give leadership in his field of specialization and coordinate activities of different research programmes.

Qualifications and Experience

Essential :

(i) Doctorate in Geology with atleast ten years of postdoctoral experience in geological research in Himalayan terrain.

OR

Master's Degree in Geology with atleast fifteen years of experience in geological research in Himalayan terrain.

(ii) Research publications in reputed journals.

Desirable : Organisational experience of minimum five years.

Age Limit : Maximum 50 years

2. Registrar : (One Post-Temporary but likely to continue)

(Pay Scale : Rs. 3000-100-3500-125-4500)

Qualifications and Experience

(1) A Degree in Arts/Science/Commerce from a recognized university.

(2) Atleast six years administrative experience in a responsible supervisory

capacity with adequate experience of establishment, accounts and stores in a Scientific department or Institution of Government or an Autonomous Body.

(3) Should be conversant with Govt. rules and regulations, accounting procedure and modern management techniques.

Age Limit : Minimum 35, Maximum 50 years.

Job Requirement : This is a Senior position in the Institute. The incumbent shall be overall incharge of the Establishment, Administration, Accounts, Stores, Security and Vigilance. He shall act as the non-member Secretary to the Governing Body, the Finance Committee and/or such other committees as may be provided by the Regulations, Bye-laws, Service/Recruitment Rules, etc. He shall prepare in consultation with the Director, the agenda for the meetings of different bodies and draft the minutes of the meetings. He shall perform such other duties and responsibilities as may be assigned to him by the Director of the Institute from time to time.

Note : Those who have already applied against previous advertisement No. 4 86-WIHG need not apply again. But additional information, if any may be sent.

3. Scientist 'B' : 5-Posts (Two posts reserved—1 for SC, 1 for ST)

Pay Scale : 2200-75-2800-EB-100-4000

Qualification & Experience

1. M.Sc. first class in Geology, Applied Geology / Geomorphology/ Applied Geophysics with three years research experience

OR

Ph.D. in Geology/Applied Geology/ Applied Geophysics.

Age : 35 years

Field of Specialization

Metamorphic Petrology, Geochemistry, Sedimentology, Experimental Petrology, Structural Geology, Geomorphology, Hydrology, Palaeontology.

Note : (1) For Geomorphology specialization, candidates possessing

M.Sc. degree in Geography can also apply. Similarly for Hydrology specialization, candidates possessing M.E. or M. Tech. degree in Hydrology can apply.

(2) No. of Posts are likely to increase.

4. Librarian : 1-Post.

Pay Scale : Rs. 2000-60-2300-EB-75- 2300-100-3500

Qualifications & Experience

M.Sc. with B. Lib. Science or B Sc. with M.Lib. with minimum two years experience in a research organisation or in a University Library.

Age : Maximum 32 years

5. Senior Assistant (Hindi Translator) : 1-Post

Pay Scale : Rs. 1400-40-1800-EB-50- 2300

Qualifications

- (i) B Sc with Geology as one of the Subjects.
- (ii) M.A in Hindi or English.
- (iii) Experience: Adequate experience of translating scientific Literature from English to Hindi & vice versa.

Job Requirement

(i) Translation of Annual Report, Scientific Reports, Office Order, Memorandum, Circulars and such other routine matters of the Institute from English to Hindi and vice-versa.

(ii) Any other work assigned by the superior authorities.

Age : Maximum 30 years

6. Technical Assistant : 5-Posts.

(1-post reserved for SC candidate)
(No. of posts likely to increase)

Pay Scale : Rs. 1400-40-1800-EB-50- 2300.

Post No. 1: For X-Ray Diffractometer.

Post No. 2 : For Scanning Electron Microscope

Post No. 3: For Fission Track Dating

Post No. 4: For X-Ray Fluorescence.

Post No. 5: For Museum and Repository.

Essential Qualification

(a) For Post No. 1,2,3, and 4 : B.Sc. with Physics and Chemistry.

OR

Diploma in Electronic Engineering/Instrumentation.

(b) For post No. 5 : B.Sc. with Geology as one of the subjects.

Desirable

(a) Two years experience of working on sophisticated analytical equipments e.g. in X-Ray diffractometer, SEM, XRF, Fission Track Dating Lab and Museum.

(b) B.Sc. with Diploma in Engineering/Instrumentation.

(c) Good Academic record.

Age : 28 years

Junior Engineer : 1-Post

Pay Scale : Rs. 1400-40-1800-EB-50-2300

Qualification and Experience

Diploma in Civil Engineering of three years duration or equivalent with adequate experience in execution of civil works and maintenance of buildings, roads & Sewers. Preparation of estimates drawings, recording of M.Bs. and other connected records.

Age : Maximum 28 years (relaxable in case of exceptionally qualified candidates).

Desirable : Two years experience.

General Conditions

1. All posts carry allowances as per Central Govt. rates.

2. Age relaxable to SC candidates as per rules.

3. Application may be made on plain paper giving the following particulars with copies of certificates :

1. Post Applied
2. Name of the Applicant
3. Father's Name
4. Date of Birth
5. Address for Communication
6. Qualifications from High School onwards mentioning examinations passed, class/grade obtained, University and year.
7. Present status and Basic Pay

8. Experience of previous employment giving names of the employer and post held
9. Nature of duties performed
10. Name & address of two referees
11. Particulars of postal order(s)
12. Any other information that the applicant may like to give.

4. A crossed non refundable current Indian Postal Order for Rs. 8/- (Rs. 2/- in case of SC ST candidates) drawn in favour of Director, WIHG payable at Dehra Dun, should be sent along with the application. Completed application should reach the Director on or before 15.12.1987. Candidates already in service must apply through proper channel. Incomplete applications, not accompanied by the postal orders and copies of certificate are to be rejected.

5. All applications received will be considered by a screening committee for short listing and the screening committee may restrict the number of candidates for interview on the basis of qualifications and experience higher than the minimum prescribed. The Director also reserves the right of rejecting any or all applications without assigning any reason thereof. The Institute reserves

if deemed necessary.

6. Canvassing in any form and/or bringing any influence will be treated as a disqualification.

7. No interim enquiries will be entertained.

REGISTRAR

**DELHI INSTITUTE OF
TECHNOLOGY**

**Old 1.G. Block, Kashmere Gate
Delhi-110006**

CORRIGENDUM

Refer the 'situation vacant' notice issued by this Institute published on the 9.11.87.

The Age Limit : as on 7.12.87.

Maximum emoluments against the post of Professor : read Rs. 5870 instead of Rs. 6870.

Scale of Pay for Store Officer (S. No. 10) : read Rs. 2000—3200 (Revised) instead of 2000-3000.

Last date for submission of applications : read 7.12.87, instead of 27.11.87

Just Published . . .

BEHIND THE POISON CLOUD—UNION CARBIDE'S BHOPAL MASSACRE

Larry Everest

This is an extremely well informed and well documented book, co-published with Banner Press, Chicago, about how and why the tragedy in Bhopal took place on the night of 2 December 1984. The author carefully places together evidence to show how the Union Carbide plant producing methyl isocyanate (MIC) in Bhopal was a 'design for disaster'.

The book has much to say about Union Carbide's arrangements for safety in the Bhopal plant, and about the role of Union Carbide, the Indian Government and some of the medical fraternity in the months following the tragedy.

Hardbound

Rs. 125.00

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**BOMBAY CALCUTTA NEW DELHI MADRAS HYDERABAD
BANGALORE PATNA LUCKNOW GUWAHATI**

HARYANA AGRICULTURAL UNIVERSITY
HISAR
ADMISSION NOTICE

Applications are invited for admission to the following programmes from 2nd semester of the academic session 1987-88 commencing from 1.2.1988. The last date fixed for receipt of applications in the Registrar's office (through proper channel in case of inservice candidates) is 31.12.1987. No days of grace will be allowed. The eligible candidates should present themselves for interview on the date and time mentioned below against each programme in the Committee Room of Dean, PGS, HAU, Hisar. No separate intimation regarding interview will be issued :

1. Ph.D.
2. M.V.Sc.
3. M.V.Sc. (Animal Sciences) vacant seats only.

Ph.D.

Discipline 1	Date of Interview 2	Time 3	Minimum qualifications 4
College of Agriculture Entomology, Extension Education, Horticulture, Nematology, Plant Pathology, Plant Breeding, Soil Science, Vegetable Crops, Ag. Economics and Agronomy.	11.1.1988	9.30 A.M.	The minimum qualifications for admission of fresh as well as inservice candidates shall be 60% marks or a grade point average of 3.2 (4.00 basis) at the Master's level in the subject concerned (Specific detail of subjects of Basic Science disciplines is as given below) and 56% marks or grade point average of 2.50 (4.00 basis) at the Bachelor's level.
College of Basic Sciences Bio-Chemistry, Botany, Plant Physiology, Genetics Microbiology, Rural Sociology, Zoology and Statistics.	12.1.1988	9.30 A.M.	Botany: M.Sc. (Botany/Life Sciences/Bio-Sciences).
College of Vety. Sciences Vety. Anatomy, Gynaecology and Obst., Medicine, Micro-biology, Parasitology, Pathology, Pharmacology, Physiology, Public Health and Surgery.	13.1.1988	9.30 A.M.	Plant Phy. : M.Sc. (Pl. Physiology/ Botany/Bio-Sciences/Life Sciences).
College of Animal Sciences Animal Breeding, Animal Nutrition, Animal Production, Physiology and Livestock Production and Management.	14.1.1988	2.30 P.M.	Zoology : M.Sc. (Zoology/Life Scs. Bio Scs.) Rural Sociology : M.Sc. (Sociology/ Soc. Scs.).
College of Home Science Foods and Nutrition and Home Science Extension Education.	14.1.1988	9.30 A.M.	Biochem : M.Sc. (Bio-Chem./Molecular Biology/Bio-Technology/ Chemistry/Microbiology) Stat : M.Sc. (Statistics/Mathematical Stat./ Applied Statistics) Gen : M.Sc. (Genetics/Plant Breeding/ Botany/Bio-Sci./Life Sci./Molecular Biology/Microbiology/ Biotechnology).

1	2	3	4
			Microbiology : M.Sc. (Microbiology/Biochem./Biosciences/Life Sciences/Molecular Biology/Genetics).

First preference will be given to the discipline of the Department.

2. M.V.Sc.

College of Vety. Sciences

1. Vety. Anatomy	15.1.1988	9.30 A.M.	
2. Vety. Gynaecology and Obst.			
3. Vety. Medicine			
4. Vety. Microbiology			
5. Vety. Immunology			
6. Vety. Parasitology			
7. Vety. Pathology			
8. Vety. Pharmacology			
9. Vety. Physiology			
10. Vety. Public Health			
11. Vety. Surgery.			

B.V.Sc. and A.H. or B.V.Sc. with equivalent prog. of work and equivalent duration of period of training, with a grade point average of 2.50 (4.00 basis) or 56% marks (Where OGPA is not given) and above.

3. M.V.Sc. (Animal Sciences)

College of Animal Sciences

1. Animal Breeding	15.1.1988	2.30 P.M.	
2. Animal Nutrition			-do-
3. Animal Production Physiology			
4. Animal Feed Technology			
5. Animal Products Technology			
6. Live Stock Production and Management.			

How to Apply

Prospectus alongwith the admission form is obtainable from the Asstt. Registrar (Academic), HAU, Hisar-125004 on payment of Rs. 10/-in cash at the Counter or by sending an Indian Crossed Postal Order worth Rs. 15/- payable to the Asstt. Registrar (G), HAU, Hisar at the HAU Post Office, Hisar. Complete application form should be sent to the Asstt. Registrar (Acad.), HAU, Hisar. Incomplete admission forms will not be considered.

Fellowships and Stipends

Available on the basis of merit and on fulfilment of prescribed conditions as laid down by the University and approved by the Academic Council.

Notes

- (i) All candidates are expected to bring original certificates etc. on the date of interview, failing which they may be refused admission.
- (ii) The inservice candidates shall be employees of the HAU, Agriculture, Animal Husbandry Deptt. of the State Government and ICAR institutes located in Haryana, having experience of atleast 3 years of teaching, research/extension education in their organisation/Universities.
- (iii) Pure M.Sc. or B.Sc. candidates are not admitted to the College of Agriculture.
- (iv) Ist list of selected candidates in all the disciplines will be displayed by 25.1.88 to enable the candidates to get themselves registered by 27.1.88. Second list, if necessary, will be displayed on 29.1.88 to allow registration by 30.1.88 and 3rd list, if necessary, will be displayed on 1.2.88 to allow registration by 2.2.88. No separate intimation for the selection will be sent.

REGISTRAR